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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,634	08/28/2003	Marty Perry	020541	7484
26285	7590	07/29/2004	EXAMINER	
KIRKPATRICK & LOCKHART LLP 535 SMITHFIELD STREET PITTSBURGH, PA 15222			LAXTON, GARY L	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/650,634	Applicant(s) PERRY ET AL.	
	Examiner Gary L. Laxton	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-35 is/are allowed.
- 6) ☒ Claim(s) 36-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/22/03</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Inventorship***

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Specification***

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

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by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 36-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Brkovic.

Brkovic discloses a method of controlling a synchronous rectifier of a power converter, wherein the power converter is for producing an output voltage, the method comprising: differentiating the output voltage (400, 405, 500, 404) of the converter; and controlling conduction of the synchronous rectifier in proportion to the differentiated output voltage (80, 504, 505).

#### ***Allowable Subject Matter***

5. Claims 1-35 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

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Claims 1-7; prior art fails to disclose or suggest, inter alia, a synchronous rectifier control circuit for controlling a synchronous rectifier of a power converter, the control circuit comprising: a differentiator circuit responsive to the output voltage of the power converter; a summing circuit responsive to an output of the differentiator circuit and a step function signal; an integrator circuit responsive to an output of the summing circuit; and a gate drive circuit responsive to an output of the integrator circuit and the switching signal, the gate drive circuit including an output terminal for coupling to a control terminal of the synchronous rectifier.

Claims 8-14. prior art fails to disclose or suggest, inter alia, a synchronous rectifier control circuit for controlling a synchronous rectifier of a power converter, the control circuit comprising: a differentiator circuit having an input terminal responsive to the output voltage of the power converter; a summing circuit having a first input terminal coupled to an output terminal of the differentiator circuit and having a second input terminal responsive to a step function signal; an integrator circuit having an input terminal coupled to an output terminal of the summing circuit; and a gate drive circuit having a first input terminal coupled to an output of the integrator circuit, having a second input terminal responsive to the switching signal, and having an output terminal for coupling to a control terminal of the synchronous rectifier.

Claims 15-18. prior art fails to disclose or suggest, inter alia, a control circuit for a synchronous rectifier of a power converter, the control circuit comprising: means for differentiating the output voltage of the power converter; means for summing the differentiated output voltage and a step function signal to thereby generate a Summation signal; means for integrating the summation signal; and means for activating the synchronous rectifier based on the integrated summation signal and the switching signal.

19-31; prior art fails to disclose or suggest, inter alia, a power converter for producing an output voltage, comprising: a synchronous rectifier control circuit including: a differentiator circuit responsive to the output voltage of the power converter; a summing circuit responsive to an output of the differentiator circuit and a step function signal; an integrator circuit responsive to an output of the summing circuit; and a gate drive circuit responsive to an output of the integrator circuit and the switching signal and including an output terminal coupled to a control terminal of the synchronous rectifier.

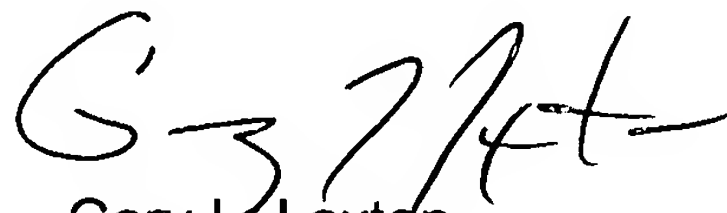
Claims 32-35; prior art fails to disclose or suggest, inter alia, a method of controlling a synchronous rectifier of a power converter, the method comprising: differentiating the output voltage of the power converter; summing the differentiated output voltage and a step function signal to thereby generate a summation signal; integrating the summation signal; and activating the synchronous rectifier based on the integrated summation signal and the switching signal of the power converter.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gary L. Laxton  
Patent Examiner  
Art Unit 2838

GLL